Claims:

1. A method for the preparation of doped oxide material, in which method substantially all the reactants (B, D) forming the oxide material are brought into a vaporous reduced form in the gas phase and after this to react with each other in order to form oxide particles (P), **characterized** in that said reactants (B, D) in vaporous and reduced form are mixed together as a gas flow (BD) of the reactants, which gas flow (BD) is further condensed fast in such a manner that substantially all the components of the reactants (B, D) reach a supersaturated state in said gas flow substantially simultaneously by forming oxide particles (P) in such a manner that there is no time to reach a chemical phase equilibrium.

2. The method according to claim 1, **characterized** in that said oxide material is doped glass material, which is formed of the base materials (B) and dopants (D) of glass material by bringing these to react with each other in the gas phase in a vaporous reduced form and to condensate further into glass particles (P).

3. The method according to claim 1, **characterized** in that the fast condensation of reactants (B, D) into oxide particles (P) is achieved by fast oxidation of reactants (B, D).

4. The method according to claim 3, **characterized** in that said fast oxidation and condensation of reactants (B, D) is achieved by directing one or more jets (O) of oxidative gases to the gas flow (BD) of the reactants, preferably jets formed of oxygen and/or carbon dioxide.

5. The method according to claim 4, **characterized** in that said one or more jets (O) of oxidative gases are directed to the gas flow (BD) in a manner causing strong turbulence and mixing.

6. The method according to claim 4, **characterized** in that the formation of oxide particles (P) is intensified by directing said one or more jets (O) of oxidative gases to the gas flow (BD) of reactants as colder than said gas flow.

7. The method according to claim 1, **characterized** in that the fast condensation of reactants (B, D) into oxide particles (P) is achieved and/or it is intensified by expanding the gas flow (BD) of reactants adiabatically.

8. The method according to claim 7, **characterized** in that the gas flow (BD) of reactants is directed through the Lavall nozzle (LR) or the like.

9. The method according to any of the preceding claims, **characterized** in that said oxide material is glass material, as whose base material (B) is used inorganic or organic compound of silicon or germanium, such as silicon tetrachloride or germanium tetrachloride, TEOS (tetraethylortosilicate), or GEOS (tetraethoxygermanium).

10. The method according to any of the preceding claims, **characterized** in that said oxide material is glass material, as whose dopant (D) is used erbium, neodymium, other rare earth metal, aluminium, phosphorus, borium and/or fluorine.